

### **ABSTRACT**

The present invention relates to a method for deuteration of a heterocyclic ring, which comprises subjecting a compound having a heterocyclic ring to sealed refluxing state in a deuterated solvent in the presence of an activated catalyst selected from a palladium catalyst, a platinum catalyst, a rhodium catalyst, a ruthenium catalyst, a nickel catalyst and a cobalt catalyst. In accordance with a method of the present invention, a hydrogen atom belonging to a heterocyclic ring of a compound having a heterocyclic ring can be very efficiently deuterated because temperature of deuteration reaction can be maintained at higher than boiling point of the solvent.

Further, a method for deuteration of the present invention can be applied widely to deuteration of various compounds having a heterocyclic ring which are liable to decomposition under supercritical conditions or acidic conditions, leading to industrial and efficient deuteration of a compound having a heterocyclic ring.